

REMARKS/ARGUMENTS

These remarks are filed in response to the Examiner's Report of July 9, 2008, a response to which is due by October 9, 2008. Accordingly, the Applicants respectfully submit that no extension of time fees fall due in connection with the filing of this paper. If the Applicants are mistaken, the Commissioner is hereby authorized to deduct any necessary fees from our Deposit Account No. 13-2400.

Independent claims 1, 11, and 21 have been amended. New independent claim 23 has been added to the application. New claim 23 is directed to a gateway for routing messages between a wireless packet data network and a client network. In the Applicants' respectful submission, the foregoing amendments add no new matter to the application.

After entry of the foregoing amendments, the application contains 21 total claims, four of which are independent claims. Accordingly, with this submission the Applicants submit payment of the fees under 37 C.F.R. § 1.16(h) and (i) in the total amount of **\$260.00**. Commissioner is hereby authorized to deduct any additional necessary fees from our Deposit Account No. 13-2400.

Interview

The Applicants gratefully acknowledge the co-operation of Examiner Zhou and Supervisory Patent Examiner Shah in conducting a telephone interview with the Applicants' agent on August 12, 2008. In the course of the interview, the Applicants' agent outlined the nature of the invention described and claimed in the application. The Examiner suggested possible clarifying amendments to the independent claims. The Applicants' agent and the Examiners then discussed the contents of the primary reference Tourunen; however, no agreement was reached. The Examiners will note that some of the suggestions that they made have been incorporated into the amendments reflected in the independent claims above. Nevertheless, the Applicants maintain that the combination of the two cited references does not support a conclusion of

obviousness with regard to the independent claims for the reasons outlined and detailed below.

Remarks on Rejections

The Examiner has rejected all pending claims 1 to 12, 14, 15, and 17 to 22, for obviousness having regard to U.S. Patent Application No. 2001/0043579 to Tourunen et al. in view of the 3GPP Technical Specification ("3GPP"). For the reasons that follow, the Applicants respectfully traverse these rejections and submit that independent claims 1, 11, 21, and 23 are patentable over the cited references.

The Examiner argues that the Tourunen reference teaches a group of interface devices configured to reassemble messages transmitted as sequences of data packets in the context of a wireless communications network. In particular, the Examiner points to the segmentation and reassembly of packets that occurs within a GPRS network in accordance with the protocol. As described in paragraph [0024] of Tourunen and at page 32 of the 3GPP reference, within a GPRS protocol network the Sub-Network Dependent Conversion Protocol (SNDCP) entity in both the mobile station and in the Serving GPRS Support Node (SGSN) communicate over the wireless link by segmenting a Protocol Data Unit (PDU) into one or more SNDC data units. The receiving SNDCP reassembles the PDU from the segmented SNDC data units. This is merely a part of the GPRS communications protocol that occurs within a wireless network.

The Examiner then points to paragraph [0027] wherein Tourunen describes how a GPRS network coordinates a handover from a third generation UMTS network. The complication Tourunen addresses is that the UMTS network uses 16-bit PDU numbers for data packets whereas the GPRS network uses 8-bit PDU numbers for the data packets. During the handover, the new serving node in the GPRS network (2G-SGSN) informs the old serving node in the UMTS network (3G-SGSN) that is ready to begin to receive data packets, in response to which the old serving node (3G-SGSN) instructs the radio network subsystem to transmit buffered data packets to the old serving node (3G-SGSN) which then forwards them to the new serving node (2G-SGSN).

From these two disjointed portions of Tourunen, the Examiner argues he has found the claim limitations recited in the independent claims of the present application. For example, he alleges that the “at least one data packet of a sequence of data packets that form a message” can be found in the segmentation and re-assembly between SDNCP entities within a GPRS network. The Examiner also argues he finds the “sending out of a request to other interface devices” in the handover communication from the GPRS SGSN to the UMTS SGSN to requesting buffered packets. What the Examiner does not acknowledge is that the buffered packets that would be forwarded to the 2G-SGSN are already reassembled. Within the UMTS network, the segmentation and reassembly function is carried out by the PDCP layer (see paragraph [0025], last sentence), meaning the buffered data within the radio network system has already been reassembled from segmented SNDC data units into full PDU data packets. This is all more clearly the case since it is the disconnect in numbering between full GPRS PDU data packets and full UMTS PDU data packets that Tourunen is attempting to address. If we accept the Examiner’s interpretation of the limitation “at least one data packet of a sequence of data packets that collectively form a message” as being the SNDC data units into which a PDU is segmented at the SDNCP layer, then Tourunen would need to also teach a step in which these segmented data units were found in both the 2G-SGSN and in the 3G-SGSN and wherein one of the SGSN entities requests the forwarding of segmented SNDC data units held by the other SGSN. There is no such step in Tourunen. Tourunen teaches the forwarding of full reassembled buffered PDU data packets.

Moreover, the request from the 2G-SGSN to the 3G-SGSN for the forwarding of buffered data packets is not triggered or caused by the reception at the 2G-SGSN of one of the data packets of the sequence. Claim 1 of the present application specifies, “receiving at one interface device of the group of interface devices from a wireless communications network at least one data packet of a sequence of data packets that collectively form a message”. Following on this reception of at least one data packet, there is a step of, “determining if the at least one data packet meets a predetermined

criteria based on the location of the at least one data packet in the sequence of data packets, and if so claiming ownership of the sequence of data packets by sending out a request to the other interface devices of the group". It is not enough to note that there are interface devices that receive data packets and that there is an interface device that sends a request for data packets to another interface device. The limitation explicitly states that the interface device that sends a request (claims ownership) to other interface devices must also be the interface device that received the at least one data packet. Moreover, it must have determined that the at least one data packet meets a predetermined criteria based on the location of the at least one data packet in the sequence of data packets. Although the Examiner has noted that the 3GPP standard specifies that there are bits within the segmented data packets that may indicate whether the segmented data packet is the last in the sequence, this does not cure the deficiency in Tourunen whereby the 2G-SGSN has not received any data packets when it determines that it will request the buffered data packets from the UMTS network.

The difficulty in mapping the steps and devices found in Tourunen to the language and limitations found in the claims of the present application is due the fact that Tourunen addresses a completely context and problem. Tourunen is related to the issue of handover from second generation to third generation networks within the wireless network itself. The present application relates to a gateway that sits between the wireless network and a client network. As an example, the gateway facilitates the exchange of email messages between the client network and the wireless network. The client network may include an enterprise mail server in some embodiments. The present application is directed to the problem of receiving portions of the message at different wireless interface devices and determining which of those wireless interface devices will be responsible for assembling the message before forwarding it to the client network. Tourunen addresses a problem within the wireless network itself in dealing with a handover from a second generation network to a third generation network to facilitate roaming and, in particular, the problem of incompatible packet numbering standards between the two networks.

To emphasize the inapplicability of Tourunen to the present application, the Applicants provide the following chart mapping the limitations of claim 1, as an example, to the elements of Tourunen based on the Examiner's rejection.

Claim 1	Rejection Based on Tourunen
<p>In a communication system having a gateway containing a group of interface devices each configured with the same functionality for assembling messages transmitted as sequences of data packets from within a coverage area of a wireless communication network, a method for assembling a message from a sequence of data packets, including:</p>	<p>The Examiner points to the 2G-SGSN and 3G-SGSN as interface devices, and alleges the GGSN, BTS/BSC and RNS are also interface devices, or could be logically considered collectively an interface device.</p> <ul style="list-style-type: none"> • In later parts of the rejection, the Examiner points to the 2G-SGSN specifically as an interface device that sends a message to the 3G-SGSN, which the Examiner also considers an interface device. These two elements from Tourunen are not, in any sense, grouped in a gateway as required in the claim language
<p>receiving at one interface device of the group whose interface devices from the wireless communications network at least one data packet of a sequence of data packets that collectively form a message;</p>	<p>The Examiner points to paragraph [0019], which describes the basic function of the SGSN in a GPRS network – i.e. the fact that it receives data packets. From 3GPP, we know that the data packets are received at the SMDCP layer as segmented data units (also see paragraph [0024] of Tourunen).</p> <ul style="list-style-type: none"> • If the Examiner defines (as is clear in the rejection) the sequence of data packets as the segmented data units, and defines the “message” as the reassembled PDU, then he needs to identify an interface device that receives one of those segmented data packets. The GPRS 2G-SGSN does not receive one of those segmented data units in the process described by Tourunen. The segmented data units are received within the UMTS RNS and reassembled at the PDCP layer. Accordingly, there is no step of “receiving” as recited in the claim.

Claim 1	Rejection Based on Tourunen
<p>determining if the at least one data packet meets a predetermined criteria based on the location of the at least one data packet in the sequence of data packets,</p>	<p>Here the Examiner points to Figure 4, and paragraphs [0003] and [0027]. These portions of Tourunen describe the handover process and, in particular, the fact that the 2G-SGSN <u>sends a message to the 3G-SGSN when it is ready to begin receiving packets</u>. He also relies on the 3GPP standard, which describes the flags/bits within the segmented data units that indicate whether they are a first or last data unit in the sequence.</p> <ul style="list-style-type: none"> • What is clear is that the 2G-SGSN has not yet received any of the data packets when it sends the Context Ack message to the 3G-SGSN requesting that buffered data packets be forwarded. Accordingly, it could never make a decision to send the request based on any criteria relating to the data packets.
<p>and if so, claiming ownership of the sequence of data packets by sending out a request to the other interface devices of the group for any data packets of the sequence received by the other interface devices of the group and receiving at the one interface device any data packets sent by the other interface devices in response to the request;</p>	<p>The Examiner relies on Tourunen's "Context Ack" message from the 2G-SGSN to the 3G-SGSN as evidence of this limitation.</p> <ul style="list-style-type: none"> • This sending of a request is conditional on the determination recited above (which the 2G-SGSN would never be able to make). • The message sent by the 2G-SGSN is not a request for any data packets missing from a set or sequence of data packets that the 2G-SGSN has already received portions of; rather, it is a request to send buffered reassembled PDUs from a data stream that the 2G-SGSN has never received before. • The "sequence" is not received at more than one "interface device" in Tourunen. He simply teaches that reassembled PDU are temporarily buffered at the RNS level until the handover is complete, at which time the buffered PDUs are forwarded to the new SGSN. Neither SGSN ever has to deal with the problem of reassembling a message where different data packets of the message are spread across multiple interface devices.

Claim 1	Rejection Based on Tourunen
and assembling the data packets of the sequence into the message at the one interface device.	<p>The Examiner points to paragraphs [0024] and [0027], alleging that the old SGSN receives data packets from the SRNS, reassembles them, and forwards the reassembled "message" to the new SGSN.</p> <ul style="list-style-type: none"> • Even if the 3G-SGSN reassembled buffered segmented data units (instead of simply receiving buffered reassembled PDUs from the RNS), this is incompatible with the Examiner's interpretation of the other limitations. This limitation requires that it is the "one interface device" that reassembles the message, <i>i.e.</i> the interface device that sent the request to other interface devices based on the predetermined criteria applied to one of the data packets it received. Since the Examiner has earlier stated that it is the 2G-SGSN that sends the request, then to be consistent he must find in Tourunen a step of "assembling" that occurs in the 2G-SGSN. None is present.

Although the above analysis was given in connection with independent claim 1, similar limitations may be found in independent claims 11, 21, and 23. For at least these reasons, the Applicants respectfully submit that the rejection under 35 U.S.C. § 103(a) in reliance on Tourunen and 3GPP is improper and ought to be withdrawn. For the same reasons, the dependent claims are also non-obvious over the cited references. Accordingly, the Applicants respectfully request withdrawal of the current rejections and reconsideration of the application.

Should the Examiner have any questions with regard to the foregoing amendments or submissions, please contact the Applicants' agent, Fraser Rowand, at 416-868-1482.

Respectfully Submitted,

ZOU, Bo et al

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